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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Dennis A. Nivens

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EXAMINER

LELE, TANMAY S

ART UNIT

PAPER NUMBER

2684

4

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,529

Applicant(s)

NIVENS ET AL.

Examiner

Tanmay S Lele

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 2, 8, and 10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 3, 10, 13, 14, 15, 2, 22, and 23 of U.S. Patent No. 6,430,418 in view of Vembu (Vembu, US Patent No. 6,259,928).

3. Regarding claims 1 and 8, the present application teaches of in a satellite communication system and apparatus comprising a satellite arranged to receive data carried by an uplink signal having a received power and a transmitter arranged to transmit said uplink signal at a transmit power, an uplink power control method and apparatus comprising: comparing the received power of at least a portion of said uplink signal with a power threshold; adjusting the transmit power at least in part in response to said comparing; determining errors in said data (as seen in claims 1, 2, 3, 10, 13, 14, 15, 2, 22, and 23 of US 6,259,928).

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US Patent 6,259,928 does not specifically teach of adjusting said power threshold in response to said determined errors.

In a related art dealing with power control in a satellite system Vembu teaches of adjusting said power threshold in response to said determined errors (column 9, lines 46 – 53 and column 9, lines 13 – 22).

It would have been obvious to one skilled in the art at the time of invention to have included into US Patent 6,259,928, Vembu's variable threshold power control system, for the purposes of dynamically controlling and adapting a power control system to the conditions of the environment the system is utilized in, as taught by Vembu.

Regarding claims 2 and 10, the present invention is of in a satellite communication system comprising a satellite arranged to receive data carried by an uplink signal having a received power and a transmitter arranged to transmit said uplink signal at a transmit power, an uplink power control method and apparatus comprising: comparing the received power of at least a portion of said uplink signal with a power threshold; adjusting the transmit power at least in part in response to said comparing; determining errors in said data; and adjusting said transmit power at least in part in response to said determined errors in said data (as seen in claims 1, 2, 3, 10, 13, 14, 15, 2, 22, and 23 of US 6,259,928).

US Patent 6,259,928 does not specifically teach of adjusting said power threshold in response to said determined errors.

In a related art dealing with power control in a satellite system Vembu teaches of adjusting said power threshold in response to said determined errors (column 9, lines 46 – 53 and column 9, lines 13 – 22).

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It would have been obvious to one skilled in the art at the time of invention to have included into US Patent 6,259,928, Vembu's variable threshold power control system, for the purposes of dynamically controlling and adapting a power control system to the conditions of the environment the system is utilized in, as taught by Vembu.

4. Claims 3 and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 3, 10, 13, 14, 15, 2, 22, and 23 of U.S. Patent No. 6,430,418 in view of Vembu (Vembu, US Patent No. 6,259,928) and Dahlman et al. (Dahlman, US Patent No. 6,173,162).

Regarding claims 3 and 11, the present invention is of in a satellite communication system and apparatus comprising a satellite arranged to receive data carried by an uplink signal having a received power and a transmitter arranged to transmit said uplink signal at a transmit power, an uplink power control method and apparatus comprising: comparing the received power of at least a portion of said uplink signal with a power threshold; adjusting the offset power of said transmit power at least in part in response to said comparing; determining errors in said data (as seen in claims 1, 2, 3, 10, 13, 14, 15, 2, 22, and 23 of US 6,259,928).

US 6,259,928 does not specifically teach of [said uplink signal at a transmit power] formed by a reference power combined with an offset power; adjusting the offset power of said transmit power to a first value in response to determined errors in said first type of data and adjusting said offset power to a second value in response to determined errors in said second type of data; first and second types of data; and of adjusting said power threshold in response to said determined errors (note that the brackets are used for clarity and that these limitations are addressed in the above cited reference).

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In a related art dealing with power control in a satellite system Vembu teaches of adjusting said power threshold in response to said determined errors (column 9, lines 46 – 53 and column 9, lines 13 – 22).

It would have been obvious to one skilled in the art at the time of invention to have included into US Patent 6,259,928, Vembu's variable threshold power control system, for the purposes of dynamically controlling and adapting a power control system to the conditions of the environment the system is utilized in, as taught by Vembu.

US 6,259,928 in view of Vembu do not specifically teach of [said uplink signal at a transmit power] formed by a reference power combined with an offset power; adjusting the offset power of said transmit power to a first value in response to determined errors in said first type of data and adjusting said offset power to a second value in response to determined errors in said second type of data; first and second types of data

In a related art dealing with power control in a communications system, Dahlman teaches of [said uplink signal at a transmit power] formed by a reference power combined with an offset power (column 3, lines 42 – 65); first and second types of data (column 8, lines 31 – 46); and adjusting the offset power of said transmit power to a first value in response to determined errors in said first type of data and adjusting said offset power to a second value in response to determined errors in said second type of data (Figure 5 and column 3, lines 42 – 65 and column 8, lines 31 – 54).

It would have been obvious to one skilled in the art at the time of invention to have included into US Patent 6,259,928 and Vembu's variable threshold power control system, Dahlman's multiple data formats and offsets, for the purposes of allowing the transmission and reception of different types of services and further power controlling

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these services according to their respective quality of service requirement (and thus without excessive waste in power, as different types of data services possess different levels of coding and thus different quality requirements), as taught by Dahlman.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 11 – 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11, it was not understood what “and wherein said one or more processors are arranged to adjust said,” was in reference to. For purposes of examination, it was assumed that this claim was the apparatus of claim 3. Appropriate correction is required.

Claims 12 and 13 are rejected for at least those reasons as stated for independent claim 11.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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8. Claims 1, 2, 5, 6, 8 – 10, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Vembu (Vembu, US Patent No. 6,259,928).

Regarding claims 1 and 8, Vembu teaches of in a satellite communication system and apparatus comprising a satellite arranged to receive data carried by an uplink signal having a received power and a transmitter arranged to transmit said uplink signal at a transmit power (Figure 1 and column 4, lines 14 – 18; note “communications link” is noted in column 5, lines 28 – 32 and thus uplink would be included), an uplink power control method and apparatus comprising: comparing the received power of at least a portion of said uplink signal with a power threshold (column 9, lines 46 – 53 and column 7, lines 13 – 19); adjusting the transmit power at least in part in response to said comparing (column 9, lines 46 – 53 and starting column 5, line 63 and ending column 6, line 3); determining errors in said data (column 9, lines 46 – 53); and adjusting said power threshold in response to said determined errors (column 9, lines 46 – 53 and column 9, lines 13 – 22).

Regarding claims 2 and 10, Vembu teaches of in a satellite communication system and apparatus comprising a satellite arranged to receive data carried by an uplink signal having a received power and a transmitter arranged to transmit said uplink signal at a transmit power (Figure 1 and column 4, lines 14 – 18; note “communications link” is noted in column 5, lines 28 – 32 and thus uplink would be included), an uplink power control method and apparatus comprising: comparing the received power of at least a portion of said uplink signal with a power threshold (column 9, lines 46 – 53 and column 7, lines 13 – 19); adjusting the transmit power at least in part in response to said comparing (column 9, lines 46 – 53 and starting column 5, line 63 and ending column 6,

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line 3); determining errors in said data (column 9, lines 46 – 53); adjusting said power threshold in response to said determined errors (column 9, lines 46 – 53 and column 9, lines 13 – 22) and adjusting said transmit power at least in part in response to said determined errors in said data (column 8, lines 15 – 26).

Regarding claims 5 and 14, Vembu teaches all the claimed limitations as recited in claims 1 and 8. Vembu further teaches of wherein said determining errors comprises: determining error counts of said errors (column 7, lines 52 –67); determining an average error rate in response to said error counts (column 7, lines 52 –67); and adjusting said power threshold in response to said average error rate (column 7, lines 52 –67).

Regarding claims 6 and 15, Vembu teaches all the claimed limitations as recited in claims 5 and 14. Vembu further teaches of wherein said uplink signal comprises transmit of a plurality of data signals (column 7, lines 52 –54) and wherein determining an average error rate comprises: determining a total number of errors by summing said error counts for said plurality of data signals (column 7, lines 52 –67; as seen in BER curves known in the art); and dividing the total number of errors by the number of data signals in said plurality of data signals (column 7, lines 52 –67 as seen in BER curves known in the art).

Regarding claim 9, Vembu teaches all the claimed limitations as recited in claim 8. Vembu further teaches of wherein said processor further is arranged to adjust said transmit power at least in part in response to said determined errors (column 8, lines 15 – 26).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928) in view of Dahlman et al. (Dahlman, US Patent No. 6,173,162).

Regarding claims 3 and 11, Vembu teaches of in a satellite communication system and apparatus comprising a satellite arranged to receive data carried by an uplink signal having a received power and a transmitter arranged to transmit said uplink signal at a transmit power (Figure 1 and column 4, lines 14 – 18; note “communications link” is noted in column 5, lines 28 – 32 and thus uplink would be included), an uplink power control method and apparatus comprising: comparing the received power of at least a portion of said uplink signal with a power threshold (column 9, lines 46 – 53 and column 7, lines 13 – 19); adjusting the offset power of said transmit power at least in part in response to said comparing (column 9, lines 46 – 53 and starting column 5, line 63 and ending column 6, line 3); determining errors in said data (column 9, lines 46 – 53); and adjusting said power threshold in response to said determined errors (column 8, lines 15 – 26).

Vembu does not specifically teach of [said uplink signal at a transmit power] formed by a reference power combined with an offset power; adjusting the offset power of said transmit power to a first value in response to determined errors in said first type of

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data and adjusting said offset power to a second value in response to determined errors in said second type of data; and first and second types of data (note that the brackets are used for clarity and that these limitations are addressed in the above cited reference).

In a related art dealing with power control in a communications system, Dahlman teaches of [said uplink signal at a transmit power] formed by a reference power combined with an offset power (column 3, lines 42 – 65); first and second types of data (column 8, lines 31 – 46); and adjusting the offset power of said transmit power to a first value in response to determined errors in said first type of data and adjusting said offset power to a second value in response to determined errors in said second type of data (Figure 5 and column 3, lines 42 – 65 and column 8, lines 31 – 54).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu's variable threshold power control system, Dahlman's multiple data formats and offsets, for the purposes of allowing the transmission and reception of different types of services and further power controlling these services according to their respective quality of service requirement (and thus without excessive waste in power, as different types of data services possess different levels of coding and thus different quality requirements), as taught by Dahlman.

11. Claim 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928) in view of Dahlman et al. (Dahlman, US Patent No. 6,173,162) as applied to claims 3 and 11 above, and further in view of Lieshout et al. (Lieshout, US Patent Application No. 2002/0094833).

Regarding claims 4 and 12, Vembu in view of Dahlman teach all the claimed

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limitations as recited in claim 3 and 11. Vembu in view of Dahlman further teaches of wherein said adjusting said offset power but do not specifically teach of comprises addressing a look up table.

In a related art dealing with power control in a communications system, Lieshout teaches of comprises addressing a look up table (paragraph 0047).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu and Dahlman's quality of service dependent power control system, Lieshout's look up table, for the purposes of monitoring power and changing power for specific connections, as taught by Lieshout.

12. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928) as applied to claims 1 and 8 above, and further in view of Boyden (Boyden, US Patent No. 6,430,394).

Regarding claims 7 and 16, Vembu teaches all the claimed limitations as recited in claims 1 and 8. Vembu further teaches of wherein said transmit of said uplink signal comprises transmit of transmit of a data signal carrying said data (column 4, lines 19 – 26).

Vembu does not specifically teach of a synchronization signal and wherein said comparison is made using said synchronization signal (though makes reference to other information that can be transmitted in column 4, lines 19 – 22).

In a related art dealing with power control and satellite systems, Boyden teaches of a synchronization signal (column 4, lines 18 – 20) and wherein said comparison is made using said synchronization signal (column 4, lines 18 – 45).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu's variable threshold power control system, Boyden's synchronization system, for the purposes of time synchronizing and power controlling a link with a long delay (a the distance would be from ground to space) and further possessing the ability to accommodate for variable propagation conditions, as taught by Boyden.

13. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (Vembu, US Patent No. 6,259,928) as applied to claim 11 above, and further in view of Wiedeman et al. (Wiedeman, US Patent No. 6,240,124).

Regarding claim 13, Vembu teaches all the claimed limitations as recited in claim 11. Vembu does not specifically teach of including a network control center and wherein the processor arranged to determine errors is located in said network control center (column 15, lines 51 –60).

In a related a dealing with satellite communications and power control, Wiedeman teaches of including a network control center (column 15, lines 51 – 60) and wherein the processor arranged to determine errors is located in said network control center (column 15, lines 51 –60).

It would have been obvious to one skilled in the art at the time of invention to have included into Vembu's variable threshold power control system, Wiedeman's central controller and processor for determining error in power, for the purposes of reducing the processing power required by a satellite (where keeping power consumption low is critical, as power supplies are finite) through a ground based station, as taught by Wiedeman.

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Citation of Pertinent Prior Art

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Inventor	Publication	Number	Disclosure
Wiedeman et al.	US Patent	6,272,325	Method and apparatus for considering user terminal transmitted power during operation in a plurality of different communication systems
Vembu	US Patent	6,185,432	System and method for selecting power control modes
Prescott	US Patent	6,147,981	Method and apparatus for predictive parameter control with loop delay
Gallagher et al.	US Patent	5,956,619	Satellite controlled power control for personal communication user terminals
Kanai	US Patent	5,386,589	Transmission power control system capable of keeping signal quality constant in mobile communication network


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanmay S Lele whose telephone number is (703) 305-3462. The examiner can normally be reached on 9 - 6:30 PM Monday – Thursdays and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on (703) 308-7745. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.


Tanmay S Lele
Examiner
Art Unit 2684


NAY MAUNG
SUPERVISORY PATENT EXAMINER

tsl
October 31, 2003